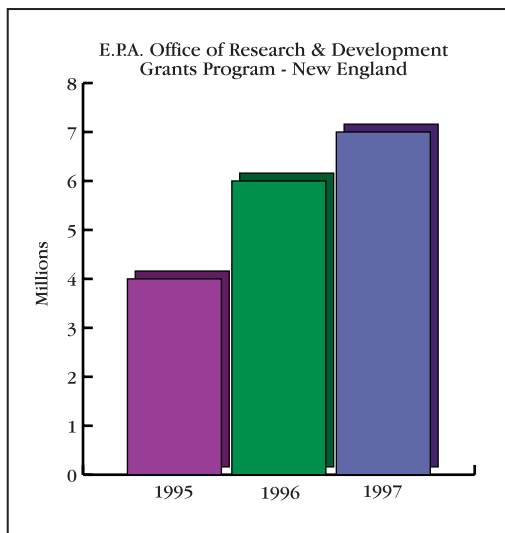


Section IV.

Access to Capital

Entrepreneurs with promising environmental technologies often have difficulty attracting investors due to several factors: uncertainty associated with an ever-changing regulatory landscape; lack of reliable verification data; and a hesitancy on the part of lenders to finance non-traditional, unproven, and untested technologies. Competing for venture capital dollars against higher-yield, lower risk traditional technologies proves to be a formidable challenge for a start-up company. EPA Region I is working hard to meet this challenge – over the past four years, our region has earned the distinction of being in the highest tier of percentage of per capita envirotech dollars secured in the country. The strength of our region’s research base is also reflected in the fact the total amount of EPA research dollars coming to the region has steadily increased over the last three years from just over four million dollars in 1995 to over seven million in 1997; this translates in to New England capturing over 18% of the total EPA research dollars.*



CEIT sponsors a wide range of activities designed to bridge the gap between the diverse interests of the environmental technology developers, regulatory experts, investors and lenders. The following is a sample of the types of innovative programs CEIT is aggressively promoting to reduce the “capital barrier.”

Technology Evaluation and Regulatory Risk Assessment

EPA teamed with the University of New Hampshire Center for Venture research, the Technology Capital Network at MIT, and the U.S. National Institute for Standards and Technology on cooperative agreement designed to provide investors with a better understanding of the technological and regulatory uncertainty associated with the commercialization of new environmental technologies. By helping early stage investors better understand and quantify regulatory risk, this effort will facilitate early-stage

financing of promising environmental ventures. A pilot is currently being offered as a service for the investors at the Technology Capital Network at MIT.

“By helping early stage investors better understand and quantify regulatory risk, this effort will facilitate early-stage financing of promising environmental ventures.”

—Jim Cabot, Director CEIT

Venture Capital Forums

EPA New England has held two venture capital forums. These forums provide an opportunity for companies seeking capital to present their plans to an audience of potential investors. At the same time, the forums provide an opportunity for investors to talk with EPA technical and regulatory experts to help clarify any questions about market assumptions, technical applications and regulatory approval processes.

Several of our “graduates” from these forums have had success in raising capital and launching new companies. Some examples include: Errickson Materials Inc. a rubber tire recycling company; Zentox, makers of pollution

*all Grants Information in Section IV was compiled from EPA Databases.

control equipment and Cellutech, producers of industrial spill control equipment; and Compliance Systems Inc., manufacturers of process control equipment. All four of these companies have successfully raised at least one round of financing, or entered into joint ventures, totaling over three million dollars.

Business Plan Review Service

CEIT, in conjunction with EPA Headquarter's Office of Policy Planning and Economics, funded a \$75,000 project to the Center for Environmental Policy, Economics and Science to develop and pilot a business plan review service for pollution prevention technology vendors. This service has been invaluable for the participating companies. Many business development services in the past have offered either a financial or

"This project offers access to actual investors with a technical focus in the environmental field. This means that participating companies can build business plans and strategies that address the complex cross cutting issues involving finance, regulations and technology."

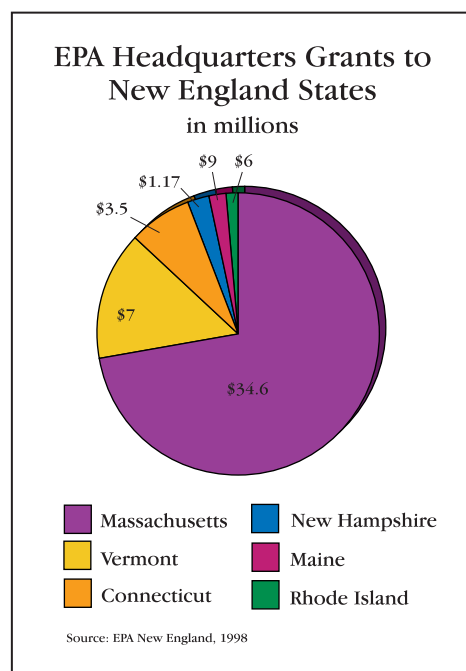
—Loeh McCabe, Director, Environmental Capital Network

technical focus. This project offers access to actual investors with a technical focus in the environmental field. This means that participating companies can build business plans and strategies that address the complex cross-cutting issues involving finance, regulations and technology.

Harvard Business School Field Study

In recognizing that we must work closely with tomorrow's business leaders if we are to achieve our environmental goals, CEIT sponsored a field study project with the Harvard Business School to look at the barriers facing the adoption of new technologies from the perspective of venture capital and angel investors. The project identified many barriers including: small diversified markets, added risk to due to regulatory uncertainty, and the difficulty in providing objective verified data. The study certainly proved to be timely as the following two years saw the start of such national programs as the Environmental Technology Verification

program, the advanced monitoring initiative and others, all designed to allow new technologies to generate objective third party data and better integrate into both the regulatory system and private markets.



Assistance in Securing Federal Research and Development Dollars

CEIT has been actively working with the region's university researchers and private sector technology developers to ensure that the best possible projects are receiving federal funds. In order to do this, CEIT pro-actively works to make sure potential grant recipients

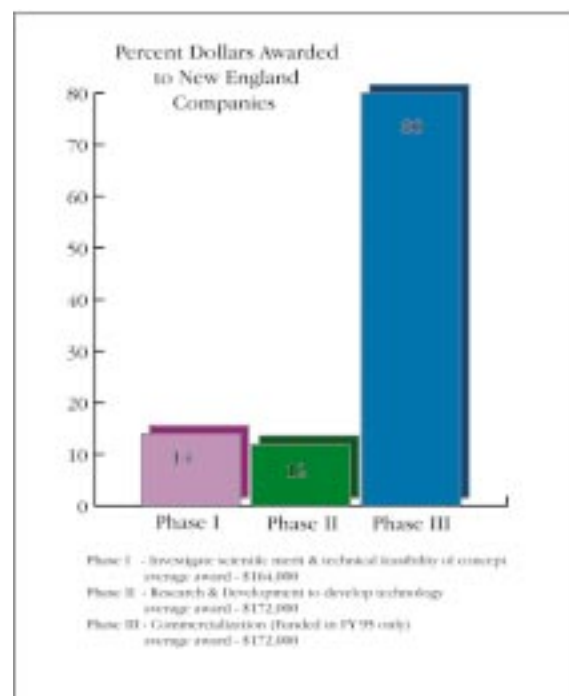
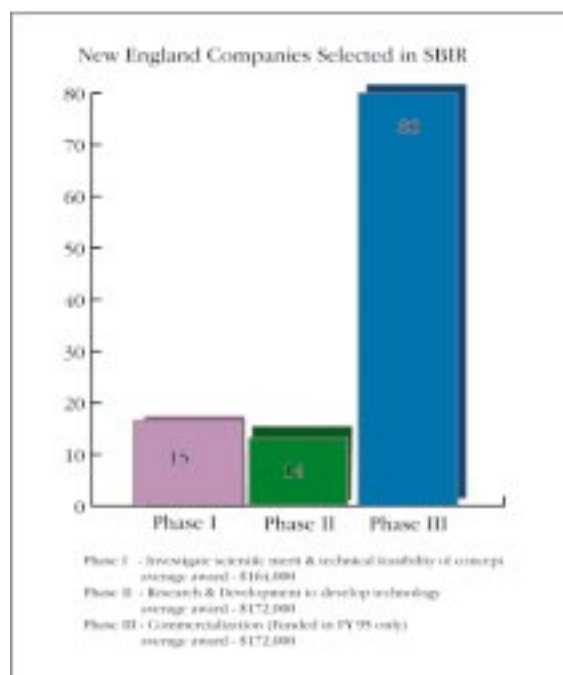
"In 1996, New England got 80% of the SBIR Phase III awards. Obviously this reflects the Region's research strengths, but we also think it had something to do with us actively going out and working with people to develop outstanding proposals."

—Jim Cabot, Director, CEIT

are aware of new technology programs, helps to build public/private teams to better pursue these opportunities and will work to establish more comprehensive proposals integrating a broader array of stakeholders. This approach is critical, as a successful technology commercialization effort requires technical, policy and regulatory expertise.

This strategy has paid off for the region. In two of the Agencies newest programs, New England has received an extremely high percentage of the total funds issued. For the new Advanced Monitoring Initiative, New England received 25% of the projects funded in FY 1997; for the EMPACT (Environmental Monitoring for Public Access and Community Tracking) program, New England received five of thirteen grants issued totaling three million dollars over three years. This translates into 18% of the total grant funds awarded in FY 1997.

The New England Region has also done extremely well with more traditional funding programs. For example, in the Small Business Innovative Research (SBIR) program, EPA's only competitive program available directly to small business, New England companies have won an average of 17% of the total awards over the last three years. This strong track record also applies to EPA's general research funds. Over the last three years New England's research institutions have enjoyed increasing success in securing these federal monies. For FY 1997, this translates into over \$7,000,000 or 18% of the total available to regions.



Case Study for Section IV

Erickson Materials:

Launching a Successful New Venture

In 1997, Erickson Materials Inc. (EMI), a "graduate" of EPA New England's Venture Capital Forum, raised \$1.16 million in its first round of start up financing. EMI is currently starting operation of their pilot facility in Woburn, MA. The plant will produce very fine rubber powders from scrap tire material and industrial rubber scrap using a radical and revolutionary size reduction technology developed in conjunction with scientists at MIT. Recycled rubber powders produced by the process will be marketed and sold as a raw material to manufacturers of rubber products, including new tires. EMI recycled powders can replace a percentage of virgin rubber in high-volume applications, thus saving manufacturers millions of dollars per year.

EMI plans to ramp up production at the current facility with a second round of financing within the next year. With the expansion, EMI projects that its revenues will increase from \$2 million to approximately \$15-20 million, and eventually employ 40-50 workers. At that level of production, EMI will process 40 million pounds of rubber annually, a significant reduction for our landfills.

EMI took an aggressive and creative approach in raising its start up capital. As participants at EPA New England's Venture Capital Forum they showed their ability to leverage government programs to their advantage. Their final mix of investors also reflects this creative approach. EMI's start up investors consisted of a public and private investors including: equity investors from United States Trust Capital and a number of private accredited investors; a portion of the financing was also provided The Massachusetts Business Development Corporation and Mass Development.

EMI is an excellent example of a firm that took advantage of the public and private sources available to start-up companies and has launched a successful new environmental venture. This accomplishment is even more impressive when taken in the context of the declining number of investments in environmental start-ups being made by institutional venture investors.

Scott Erickson, President and Founder of EMI, explains the benefit of participating in government programs, "The Mass Development Corp and Mass Development played pivotal roles in getting us off the ground." Mr Erickson continues, "The EPA was also extremely helpful. The Venture Capital Forum gave us good exposure to a wide variety of investors. They also worked with us to make sure that our facility was in compliance and avoid any problems that might have arisen."